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THIRD CONGRESS OF THE ALL-UNION ASTRONOMIC-GEODETIC SOCIETY

- USSR -

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## FOREWORD

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### THIRD CONGRESS OF THE ALL-UNION ASTRONOMIC-GEODETIC SOCIETY

- USSR -

[Following is a translation of an unsigned article in the Russian-language periodical Geodeziya i Kartografiya (Geodesy and Cartography), Moscow, No. 5, May 1960, pages 6-10.]

#### Third Congress of the All-Union Astronomic-Geodetic Society.

The Third Congress of the All-Union Astronomic-Geodetic Society (VAGO) took place in Kiev from 6 to 11 April 1960. Reports of various questions of astronomy, geodesy, and methods of teaching these branches of science were heard at the Congress. Results of the activities of the Society during the period between the second and third congresses (1955-1959) were discussed, and further tasks were outlined, which lie before VAGO and its local branches.

The remarkable events of our times which occurred during this period, namely: the launching in the Soviet Union of three artificial satellites of the Earth and three intercontinental rockets, the photographing of the invisible side of the moon, the building of the Lenin, the first atomic ice-breaker in the world, and the building of the largest synchrocyclotron in the world, are a powerful stimulus to the improvement of the work of all scientific-technical societies in our land. Exceptionally favorable conditions have been created for development of the work of VAGO, because the people of our land have started to display great interest in questions of astronomy in connection with the beginning of the mastering of the cosmos. This has undoubtedly allowed the society to achieve remarkable success. During the five years since the second congress of VAGO, the number of branches of the society has grown from 21 to 35, and the number of members has almost doubled.

In the period under review the astronomic section of the society and its local branches participated in the conduct of operations for the International Geophysical Year. Observations of noctilucent clouds, meteors and the Aurora Borealis were completed through the influence of the society. It should particularly be noted that a number of branches of VAGO were the principal participants of the observation of the clouds, and that members of VAGO directed the operations at many stations where the earth satellites were observed. Besides that, the local branches of VAGO were engaged in the study of the planets, principally of Mars. In 1956 and 1958 during the period of opposition of Mars, 1300 photographs and much other valuable material was obtained.

Very important work in the development of amateur telescope-making was also done during the period under review. From 1956 to 1958 a shop for the manufacture of home-made telescopes was organized by the Leningrad branch of VAGO in the Palace of the Young Pioneers. Projects of a similar nature were carried out in other branches of VAGO (Kuibyshev, Moscow, Riga, Estonia). In the stated period the astronomic section of VAGO took an active part in interdepartmental and international conferences and seminars.

The activity of the People's Section of VAGO has grown tremendously in connection with the launching of the Earth satellites and the intercontinental rockets and the greatly increased interest of the people in the knowledge of astronomy. The People's Section of VAGO, in close contact with the All-Union Society for the Dissemination of Political and Scientific Knowledge, has organized popular lectures on astronomy and other branches of science related to the study of the cosmos. Many lectures have been delivered in rural communities. Excursions to astronomic observatories of universities and pedagogic institutions have also been organized, lecture series have been delivered in universities of culture and VAGO members have appeared on television with reports on eclipses, appearances of comets, the launching of the satellites and the cosmic rockets. Considerable work has been done in the propagation of scientific-atheistic knowledge. The People's Section of VAGO has also played a large part in activating and organizing new planetariums and popular observatories. After the second congress of VAGO the number of these popular scientific institutions became very large, and recently it is anticipated that their number will increase still more.

The Educational Methods Section of VAGO conducted activity in the improvement of the teaching of astronomy in middle and higher institutions of learning in the USSR. As is known, this science possesses great value for the proper forming of a materialistic world outlook among the young. Textbooks, popular scientific literature and visual training aids have been reviewed by the Educational Methods Section.

The Editor-Publisher Section published the "Bulletin VAGO" (12 issues), the annual astronomic calendar and a series of other special publications during the interval between the second and third congresses.

The Geodetic Section of VAGO concentrated its strength primarily on discussions of the most important questions of geodetic science and practice and in rendering assistance in the production of the efficient organization of topographic-geodetic projects. The Geodetic Section of VAGO, following the decisions of the second congress of the society, submitted the most important scientific and technical problems of geodetic work for discussion by All-Union meetings and conferences, in which the Geodetic Sections of TsS VAGO (Central

Section VAGO) and its local branches took an active part. For instance, there was a conference in Moscow for the investigation by geodetic methods of the deformation of Hydrotechnical structures; in Kiev, a conference on geodetic instrument-making; in Novosibirsk, an intercollegiate scientific-technical conference on the construction of a geodetic net. The conclusions of these conferences will be published in the "Proceedings of Higher Institutions of Learning", and a section "Geodesy and Aerial Photography" will be issued in special publications. In addition to the above, the Geodetic Sections of the Kulbyshev and Bashkirskiy Branches of VAGO conducted very important conferences on the improvement of geodetic operations in industrial enterprises and construction organizations. In recent years there has been remarkable progress in the development of geodetic science and in the organization of geodetic and topographic projects to fulfill the requirements of various branches of the national economy, and of science in topographic maps and a geodetic base. Considerable scientific-research work has also been done in the development of the theory and methods of geodesy and in the development of new types of geodetic devices and instruments. Much scientific research in the study of vertical movement of the earth's surface has been completed under the guidance of the Geodetic Section of VAGO.

The Geodetic Section of VAGO participated actively in the formation of a section of geodesy, aerial photography, and cartography in the Scientific-technical Council of the Ministry of Higher and Middle Education of the USSR, the agency which is coordinating scientific research in the field of geodesy and cartography both in the geodetic and non-geodetic higher schools of our country.

Thanks to the persistent support of the Geodetic Section of TsS VAGO and with the energetic participation of its members, a section of "Geodesy and Aerial Photography" was established in the periodical "Proceedings of Higher Institutions of Learning" at the end of 1957. The members of the Geodetic Section of VAGO also took an active part in the periodical "Geodesy and Cartography."

However, many important shortcomings were brought out at the Congress along with the achievements of VAGO and its local branches. The Congress made it incumbent on the local branches to carry out a series of measures for the liquidation of these shortcomings.

Very important measures for the development of activity by the society in the field of astronomy were outlined in the resolutions of the Congress.

One of the substantial shortcomings of the work of VAGO, it is evident, is the negligible growth of members of the society. Up to now many distinguished scientist-astronomers and geodesists have not been members of VAGO, although their participation would undoubtedly enliven the work of the society and attract many new members. Geodesists in our land number several tens of thousands. This is a

huge reserve from which to augment the number of members of the society. If we take into consideration the increased number of planetariums and popular observatories, and the heightened interest of the people in the structure of the universe and other questions related to the mastery of the cosmos, then the number of members of VAGO can and must grow by ten times. For this the local branches must regularly set up for discussion by the sections, the most timely questions of astronomic and geodetic science and practice, enlisting for these discussions eminent scholars and leaders of production.

Discussion of interesting and timely reports on scientific-technical subjects with the cooperation of a wide circle of authorities, independently of membership in VAGO, will help to arouse the interest of local experts and by this very fact increase the number of members of the society. Such reports should be made regularly, avoiding discussion of boring subjects divorced from life, since this definitely cannot attract the attention of experts and arouse a desire to participate in the discussion.

It should particularly be observed that many geodetic organizations, scientific research bodies and educational institutions give utterly inadequate consideration to the activities of VAGO. In many geodetic organizations there is not a single VAGO member. It is natural that such a situation reflects very unfavorably on the activity of the local branches of VAGO.

At the present time a great number of important problems have accumulated in geodetic production, which up to this time have not received a proper solution. Among these problems are the most effective application of light- and radio-rangefinders in geodetic measuring, the construction of a government geodetic net for the use of light- and radio-rangefinders, the adoption of electronic computers in geodetic computations, etc. Wide discussion of these problems both by the scientific and the engineer-technician community will undoubtedly assist in taking measures for their more correct and effective solution, and, in addition, make it possible to bring the results of scientific research to the wide mass of experts, which will undoubtedly facilitate the introduction of new techniques into practice.

Local branches of VAGO can to a considerable degree help geodetic organizations in the settlement of the important tasks which face the soviet people - in the realization of further technical progress and the introduction into production of new, more productive instruments and methods. Therefore, it is necessary to establish the closest contact between the geodetic profession and the geodetic sections of the local branches of VAGO in order to organize with all their power and deliver lectures and reports on the latest achievements in geodetic science and practice, and also on the experience of innovators.

It should be noted that the geodetic sections of the local branches of VAGO still give insufficient consideration to the question of regulation of geodetic projects in construction and in industrial enterprises. Much was said at the Third Congress about the backwardness of the methods used in the above mentioned operations, about the use of obsolete instruments, about the lack of common requirements in existing instructions, which also need revision, and about the slow introduction of advanced methods and modern instruments in geodetic projects in the organizations mentioned. The absence of scientific research organizations and of a single systematic directing agency likewise is not conducive in the slightest degree to the improvement of the organization of geodetic projects in engineering and industrial construction. The geodetic sections of VAGO can materially and positively influence the putting into order of this matter. They must get the work going by exchanging experiences between related geodetic organizations and must discuss at general meetings existing and projected instructions concerning geodetic projects in construction with investigations of a different type, they must popularize new geodetic instruments and devices, they must talk over proposals on the scales necessary for topographic surveys being done for various purposes, and they must forewarn against excesses which are observed now in practice in the mentioned activities.

TsS VAGO must promote the formation of centers of scientific research for engineering geodesy. For this purpose, the Geodetic Sections of local branches of VAGO must hold wide meetings of authorities jointly with representatives of the Councils of National Economy. The question of the improvement of geodetic works in cities and in construction must be placed before these meetings, and ways of eliminating the exposed defects must be outlined. The materials derived from the result of the conduct of such meetings will give TsS VAGO much from which to work out necessary measures. With reference to the issue and construction of new geodetic instruments and photogrammetric devices, which various engineering organizations need, the Geodetic Section of VAGO must put the question of increasing the issue of the deficient instruments squarely before the appropriate agencies.

The Geodetic Section of TsS VAGO must prepare and conduct intercollegiate conferences, jointly with the directors of the higher institutions of geodetic learning, in order to improve further the training of geodetic personnel for an up-to-date technical basis.

In recent years the Geodetic Publishing House has published a large quantity of special literature and manuals. Among these sometimes appear books not completely answering modern requirements along with excellent and useful books and textbooks. Sometimes reviews of new books appear in geodetic magazines and periodicals,

and these reviews often reflect only the point of view of the author of the article. Undoubtedly, a rise in the quality of special literature will best be accomplished through wide discussion. Unfortunately, the Geodetic Sections of the local branches of VAGO almost never discuss newly published books and manuals on geodesy. In the future this activity must be conducted on a large scale.

Local branches of VAGO should organize seminars and consultations for teachers of middle schools, rendering assistance in improving the teaching of the elements of geodesy and aid in transferring to the schools geodetic equipment and instruments from organizations and institutions.

The Third Congress of VAGO proposed that the Geodetic Section expand the work of propagating geodetic knowledge among the people. In order to fulfill this resolution, local branches of VAGO must work up appropriate subjects and frequently present popular reports on questions of geodesy by radio and television. Eminent scholars and geodesists must be attracted to this work.

Fulfillment of the decisions of the Third Congress stated above, will help VAGO to perform its scientific, popular, and ideological mission in such a way that VAGO will have assisted in the accomplishment of the fundamental task before the soviet people - the building of Communism in our land.